

REQUEST FOR RECONSIDERATION

Claims 9-17 are active.

Applicants continue to thank Examiner Niland for the indication that Claims 9-17 would be allowable if the rejection under 35 U.S.C. 112, first paragraph, is overcome.

The claimed invention provides a process for preparing a hybrid dispersion comprising polyadducts and free-radical addition polymers, by first emulsifying a monomer mixture comprising the monomers of the polyadduct and the monomers of the polymer with water, and then conducting a polyaddition to prepare the polyadducts and a free-radical addition polymerization to prepare the polymers. According to the claimed process, the monomer mixture is emulsified in water before 40% of the monomers of the polyadduct have reacted to form the polyadduct.

Applicants have discovered that hybrid dispersions having improved properties are obtained by the claimed process where the monomer components of the polyadduct and the free radical addition polymer are first emulsified, then polymerization and polyaddition performed {page 2, lines 8-19}. Applicants have described that within the claimed inventive process, emulsifying the monomer components prior to significant polyadduct formation is an important limitation. The specification {page 2, lines 21-38} states:

The hybrid dispersions of the invention comprising polyadducts and free-radical addition polymers are obtainable by first emulsifying the constituent monomers of the said polyadducts and said polymers in water, i.e., introducing the respective monomers into an aqueous dispersion by means of customary emulsifiers.

This is followed by the actual polyaddition for preparing the polyadducts and the actual free-radical addition polymerization for preparing the polymers. **Another feature of the hybrid dispersions of the invention is that the particular monomers required are emulsified in water before 40% of the monomers of which the polyadducts are composed have reacted to form such polyadducts. Preferably, the monomers required in each case to prepare the polyadducts and the polymers should already be emulsified in water before 30%, advisably 20%, more advisably 10%, in particular 5%, and with particular preference 1% of the monomers of which the polyadducts are composed have reacted**

to form such polyadducts. (Bold added)

According to the inventive process, the monomers are emulsified together to form an intimate mixture prior to a significant amount of polyadduct formation. This distinguishes the claimed process from conventional methods where the polyadduct is first formed {page 1, lines 20-33} and then the free radical polymerization monomer added and polymerized.

The limitation that the monomers are emulsified prior to polyaddition is described in Claim 9, as “wherein the monomer mixture is emulsified in water before 40% of the monomers of the polyadduct have reacted to form the polyadduct.”

The rejection of Claims 9-17, under 35 U.S.C. § 112, second paragraph, is respectfully traversed.

The subject of units associated with the % of monomers of the polyadduct has been questioned by the Office. The application as originally filed stated “40% of the monomers” and Applicants respectfully continue to submit that the original wording is correct. Applicants have previously described that the 40% as indicated in Claim 9 is a ratio value and therefore is correctly stated as a number value with no units (Amendment and Request for Reconsideration, filed July 10, 2008).

The MPEP § 2173.02 states:

The examiner’s focus during examination of claims for definiteness of 35 U.S.C. 112, second paragraph, is whether the claim meets the threshold requirements of clarity and precision, not whether more suitable language or modes of expression are available. . . .

The essential inquiry pertaining to this requirement is whether the claims set out and circumscribe a particular subject matter with a reasonable degree of clarity and particularity. Definiteness of claim language must be analyzed, not in a vacuum, but in light of:

- (A) The content of the particular application disclosure;
- (B) The teachings of the prior art; and
- (C) The claim interpretation that would be given by one possessing the ordinary level of skill in the pertinent art at the time the invention was made.

(A) Applicants have described in the specification as filed and as reproduced above that a feature of the hybrid dispersions of the invention is that the particular monomers required are emulsified in water before 40% of the monomers of which the polyadducts are composed have reacted to form such polyadducts. Claim 9 recites that wherein the monomer mixture is emulsified in water before 40% of the monomers of the polyadduct have reacted to form the polyadduct.

(B) Applicants respectfully note that description similar in form to the present recitation of Claim 9 is well known to and understood by artisans of this technology. Applicants point to the following U.S. patents and the language employed therein as example in support of the status of understanding in the art:

U.S. Patent	Cited	Language
6,841,595	Claim 1	at least 40% of the monomers have been reacted
6,780,918	Claim 1	conversion of 60 to 80%, based on 100% of the monomers
5,210,104	Claim 12	until at least 85% of the monomers are reacted
5,708,093	Claim 4	as soon as the monomers mentioned under a) to c) have reacted to the extent of from 40 to 99%
4,703,090	Claim 1	until 70 to 90% of said monomers react . . . , and c) . . . until 94-96% of the monomers have reacted
6,087,465	Claim 40	until at least 99% of the diisocyanate compounds have reacted
6,001,915	Claim 1	when at least about 80% of the monomers of step (a) have reacted
7,351,777	Claim 5	after 40-70% conversion of monomer to polymer
5,625,021	Claim 2	monomer conversion of from 0 to >80%
6,346,589	Claim 7	such that the degree of conversion of monomer to polymer is greater than about 50%

C) Applicants submit that as commonly described in the above references, one of ordinary skill in the art would recognize the meaning that is described in the specification and Claim 9.

The MPEP § 2173.02 states:

If the language of the claim is such that a person of ordinary skill in the art could not interpret the metes and bounds of the claim so as to understand how to avoid infringement, a rejection of the claim under 35 U.S.C. 112, second paragraph would be appropriate. . . . However, if the language used by the applicant satisfies the statutory requirements of 35 U.S.C. 112, second paragraph, but the examiner merely wants the applicant to improve the clarity or precision of the language used, the claim must not be rejected under 35 U.S.C. 112, second paragraph, rather, the examiner should suggest improved language to the applicant.

The test for definiteness under 35 U.S.C. § 112, second paragraph, is whether “those skilled in the art would understand what is claimed when the claim is read in light of the specification.” *Orthokinetics, inc. v. Safety Travel Chairs, Inc.*, 806 F.2d 1565, 1576, 1 USPQ2d 1081, 1088 (Fed. Cir. 1986).

Applicants respectfully submit that a rejection under 35 U.S.C. § 112, second paragraph, is only appropriate if the language of the claim is such that a person of ordinary skill in the art could not interpret the metes and bounds of the claim so as to understand how to avoid infringement (*Morton Int’l, Inc. v. Cardinal Chem. Co.*, 5 F.3d 1464, 1470, 28 USPQ2d 1190, 1195 (Fed. Cir. 1993)).

Applicants respectfully submit that the description of the claim as supported by the specification is such that interpretation by one of ordinary skill in the art leads to the understanding that the monomers are emulsified together before polyadduct formation occurs to the extent that 40 % of the polyadduct monomers are reacted. Therefore, based on all the criteria cited above, Claim 9 should not be rejected under 35 U.S.C. 112, second paragraph.

Applicants note the Office’s concern relative to a prosecution record made unclear by previous amendment to describe 40% by weight in Claim 9, which has recently amended back to the original description. Applicants respectfully contend that the specification and claims as originally filed do describe the invention such that a person of ordinary skill in the art could interpret the metes and bounds of the claim and understand how to avoid infringement. Therefore, Applicants respectfully submit that rejection under 35 U.S.C. § 112, second paragraph, is not appropriate.

Applicants note the Office’s statement (Official Action dated March 6, 2009, page 3, lines 10-13) that:

The argument that amounts of reactants consumed in reactions are typically expressed in molar percentages and the applicant’s use of “mol%” at page 6, line 27 to account for amounts of “polyadduct” reactants might equally apply. The applicant has not addressed this issue.

Further, the Office relates (Official Action dated March 6, 2009, page 4, lines 8-10):

. . . , the noted IR method result can be given in mole% or weight % based in rudimentary considerations, e.g. the relationship of weight to moles.

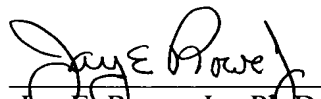
Applicants agree that a rudimentary relationship known to one of ordinary skill in the art exists between weight, moles and number of molecules, and that one can easily interconvert any of these numbers given a known monomer and its molecular weight. Furthermore, with use of any of these number and in the calculation of % values in any operation the units of the numerator and denominator cancel to yield a %. This is understood by any artisan with a basic knowledge of mathematics and chemistry. Accordingly, Applicants respectfully submit that the Office's comments actually support the Applicants' contention that one of ordinary skill in the art will readily recognize the metes and bounds described by Claim 9 and therefore rejection under 35 U.S.C. § 112, second paragraph, is not appropriate.

In view of all the above, Applicants respectfully request withdrawal of the rejection of Claims 9-17 under 35 U.S.C. 112, second paragraph.

Applicants submit that the above-identified application is now in condition for allowance and early notice of such action is earnestly solicited.

Respectfully submitted,

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